

REMARKS / ARGUMENTS

Reconsideration of the application is requested.

Claims 1 and 3-13 remain in the application. Claims 1, 3-5, and 8 have been amended. Claim 2 has been cancelled.

In item 3 on pages 2-4 of the Office action, claims 1 and 8 have been rejected as being anticipated by Gierut (US Pat. No. 6,122,161) under 35 U.S.C. § 102.

In item 5 on page 4 of the Office action, claims 3-7 and 9-13 have been rejected as being obvious over Gierut in view of Leman (U.S. Pat. No. 6,046,912) under 35 U.S.C. § 103.

As will be explained below, it is believed that the claims were patentable over the cited art in their original form and the claims have, therefore, not been amended to overcome the references. However, the language of claims 1 and 8 has been slightly amended to even more clearly define the invention of the instant application.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia:

a first printed circuit board having first defined dimensions corresponding to a first standard, and having a first portion of a plug connector, said first printed circuit board extending in a given plane, said first printed circuit board being a main board of a data processing device and including all components necessary for the function of the printed circuit board configuration and slots. (Emphasis added.)

Claim 8 calls for, inter alia:

a first printed circuit board having dimensions corresponding to a first dimension standard, said first printed circuit board substantially extending in a given plane, said first printed circuit board being a main board of a data processing device and including all components necessary for the function of the printed circuit board assembly and slots. (Emphasis added.)

It is noted that a main board, by definition, is the central or primary circuit board making up a computer system or other complex electronic system. A typical computer is built with the microprocessor, main memory and other basic components on the main board. Other components of the computer such as external storage or peripheral devices are attached to the main board via slots, connectors or cables. As also shown in the Hardware Tutorial on the website [www.wsd1.org/kelvin/Departments/teched/TUTORIAL/mothrbrd.html](http://www.wsd1.org/kelvin/Departments/teched/TUTORIAL/mothrbrd.html), the main board contains the full set of circuits to run a PC system.

The same is valid for the first printed circuit board of the invention of the instant application representing the main board as containing the necessary elements to run a computer system. As described on page 4, lines 8-12 of the specification of the instant application, all important components are situated on the first printed circuit board while the second printed circuit board only provides plug devices. It is the object of the invention of the instant application to provide a printed circuit board configuration, which allows the main board to be developed only once and which enables, if desired, expansion by further slots.

The claims of the instant application, therefore, call for not only a CPU and memory components being included in the main board, but also all those components necessary to provide full functionality to a system. The fact that the first printed circuit board according to the invention of the instant application is a main board indicates that the limitations described on page 4, lines 8-20 of the specification of the instant application are included in the claims. Nevertheless, the language of claims 1 and 8 has been amended to even more clearly recite that all the necessary components for the function of the circuit board assembly are arranged on the first printed circuit board.

The Examiner has stated that Gierut, especially column 3, lines 52-56, clearly discloses an embodiment that shows the first printed circuit board (Module 2) being a main board and including a CPU, memory components and slots (see the first paragraph on page 5 of the Office action). The text in column 3, lines 52-56 of Gierut states that it is possible to combine the CPU and memory of modules 1 and 2 into a single subassembly, e.g., the module 2. However, the text in column 3, lines 56-59 of Gierut further states that a coprocessor may now be located on the vacated module 1 to improve the power and functionality of the system. The coprocessor is normally located on the main board. This clearly indicates that the module 2 in the embodiment as described in column 3, lines 52-65 of Gierut does not have the function of a main board.

Clearly, Gierut does not show the first printed circuit board being a main board of a data processing device and including all components necessary for the function of the printed circuit board configuration or assembly, as recited in claims 1 and 8 of the instant application.

Claims 1 and 8 are, therefore, believed to be patentable over Gierut and since all of the dependent claims are ultimately dependent on claims 1 or 8, they are believed to be patentable as well.

Applic. No.: 10/084,102  
Amdt. Dated February 27, 2004  
Reply to Office action of December 11, 2003

In view of the foregoing, reconsideration and allowance of claims 1 and 3-13 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out. In the alternative, the entry of the amendment is requested as it is believed to place the application in better condition for appeal, without requiring extension of the field of search.

If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

LAURENCE A. GREENBERG  
REG. NO. 29,308



For Applicant

YC

February 27, 2004  
Lerner and Greenberg, P.A.  
Post Office Box 2480  
Hollywood, FL 33022-2480  
Tel: (954) 925-1100  
Fax: (954) 925-1101



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LERNER AND GREENBERG, P.A.  
POST OFFICE BOX 2480  
HOLLYWOOD, FL 33022-2480

EXAMINER

LEON, EDWIN A

ART UNIT

PAPER NUMBER

2833

DATE MAILED: 12/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/084,102

Applicant(s)

SCHMID, MICHAEL

Examiner

Edwin A. León

Art Unit

2833

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 9/29/03.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1 and 3-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 3-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's response filed September 29, 2003 has been placed of record in the file as Paper No. 11.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by Gierut (U.S. Patent No. 6,122,161). With regard to Claim 1, Gierut discloses a printed circuit board configuration, comprising: a first printed circuit board (Module 2) having first defined dimensions corresponding to a first standard and a first portion (14b) of a plug connector (14), the first printed circuit board (Module 2) extending in a given plane, the first printed board (Module 2) being a main board of a data processing device (See Column 3, Lines 54-61) and including a CPU (See Column 3, Lines 52-65), memory



components (See Column 3, Lines 52-65) and slots (See Column 3, Lines 52-65); a second printed circuit board (Module 1) having a second portion (14a) of the plug connector (14), the second printed circuit board (Module 1) connectable to the first printed circuit board (Module 2) through the plug connector (14) to form a connected configuration; the first (Module 2) and second (Module 1) printed circuit boards both extending in the given plane when connected in the connected configuration; and the second printed circuit board (Module 1) having dimensions such that the connected configuration has second defined dimensions corresponding to a second standard. See Fig. 1 and Column 3, Lines 52-65.

With regard to Claim 8, Gierut discloses a printed circuit board assembly, comprising: a first printed circuit board (Module 2) having dimensions corresponding to a first dimension standard, the first printed circuit board (Module 2) substantially extending in a given plane, the first printed board (Module 2) being a main board of a data processing device (See Column 3, Lines 54-61) and including a CPU (See Column 3, Lines 52-65), memory components (See Column 3, Lines 52-65) and slots (See Column 3, Lines 52-65); a second printed circuit board (Module 1) remove ably connected to the first printed circuit board (Module 2); the first (Module 2) and second (Module 1) printed circuit boards: forming a connected configuration when the second printed circuit board (Module 1) is connected to the first printed circuit board (Module 2); and both extending in the given plane when connected in the connected configuration; and the second printed circuit board (Module 1) being dimensioned to have the

connected configuration correspond to a second dimension standard. See Fig. 1 and Column 3, Lines 52-65.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-7, and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gierut (U.S. Patent No. 6,122,161) in view of Leman (U.S. Patent No. 6,046,912). With regard to Claims 3-7 and 9-13, Gierut discloses the claimed invention except for the first standard being the  $\mu$ ATX dimension standard, the second standard being the ATX dimension standard, and the second printed circuit board having slots for receiving plug-in cards.

Leman discloses an assembly having a circuit board (300) having a well known ATX dimension standard and slots (306) for receiving plug-in cards. See Fig. 5 and Column 2, Lines 32-42.

Thus, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the assembly of Gierut by using boards with a well known ATX or any other well known dimension standard and slots for receiving plug-in cards as taught in Leman to make the assembly suitable for computer systems.

***Response to Arguments***

6. Applicant's arguments filed September 29, 2003 have been fully considered but they are not persuasive. In response to Applicant's arguments regarding Claims 1 and 8 that the Gierut reference doesn't show the first printed board being a main board, Applicant's attention is directed to Fig. 1 and Column 3, Lines 52-65, specifically Lines 52-56 in which Gierut clearly discloses an embodiment that shows the first printed circuit board (Module 2) being a main board and including a CPU (See Column 3, Lines 52-65), memory components (See Column 3, Lines 52-65) and slots (See Column 3, Lines 52-65).

In response to Applicant's argument that the Gierut reference does not show arranging all the necessary components for the function of the circuit board assembly in the first printed circuit board, Applicant misinterprets the principle that claims are interpreted in the light of the specification. Although this element is found as example or embodiment in the specification, it was not claimed explicitly. Nor were the words that are used in the claims defined in the specification to require this limitation. A reading of the specification provides no evidence to indicate that this limitation must be imported into the claims to give meaning to disputed terms. *Constant v. Advanced Micro-Devices Inc.*, 7 USPQ2d 1064. Furthermore, Applicant is reminded that the claims only call for the first printed board being a main board and including a CPU, memory components

and slots. As explained above, the Examiner believes these limitations are met by the Gierut reference in their broadest interpretation.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edwin A. León whose telephone number is (703) 308-6253. The examiner can normally be reached on Monday - Friday 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paula A. Bradley can be reached on (703) 308-2319. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

*EAL*

Edwin A. Leon  
AU 2833

EAL  
December 5, 2003

P. AUSTIN BRADLEY  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800